[*J-Spectroscopy in the WellBore*]

Abstract of Disclosure

An NMR instrument for determining formation fluid properties includes a housing adapted to move in a wellbore; a magnet disposed in the housing adapted to induce a static magnetic field; an antenna assembly disposed in the housing adapted to resonate at a first frequency and a second frequency, the first frequency corresponding to a resonance frequency of a first nucleus, the second frequency corresponding to a resonance frequency of a second nucleus, wherein the first nucleus is different from the second nucleus; means for inducing an RF magnetic field; and means for detecting NMR signals at the first frequency. A method of NMR measurement includes inducing a static magnetic field having a selected magnetic field strength in an earth formation sample; acquiring NMR measurements having J coupling information; and deriving the J coupling information from the NMR measurements.

Figures